UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,560	07/02/2003	Desiree D.G. Gosby	LOT920030003US1	6618

30449 7590 12/18/2006

SCHMEISER, OLSEN & WATTS
22 CENTURY HILL DRIVE
SUITE 302
LATHAM, NY 12110

EXAMINER	
BROWN JR, NATHAN H	
ART UNIT	**PAPER NUMBER**
2121	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/18/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/613,560	GOSBY, DESIREE D.G.	
	Examiner	Art Unit	
	Nathan H. Brown, Jr.	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *(3)* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Examiner's Detailed Office Action

1. This Office is responsive to application 10/613,560, filed September 19, 2006.

2. Claims 1-50 are pending.

3. Claims 1, 10, 19, 30, and 41-46 were previously presented; claims 2-9, 11-18, 20-29, and 31-40 are original; while claims 47-50 are new.

4. After the previous examination claims 1-46 stand rejected.

Claims 1, 3-10, 12-19, 21-30, and 32-46 are rejected under 35 U.S.C. 102(a) as being anticipated by *Rosenschein et al.* (USPN 6,519,631 B1).

Regarding claims 1 & 10. *Rosenschein et al.* teach a method and a system for document analysis and retrieval (*see* Abstract), comprising the following steps performed in the order recited:

transmitting, by a remote host in a first computing system to a web service host in a second computing system (*see* Fig. 1, *Examiner interprets servers 90, 92, and 94 to be remote hosts in a first computing system and server 30 to be web service host in a second computing system.*), a first portion of a document (*see* col. 8, lines 56-58, *Examiner interprets "the data" to be a document.*);

and sequentially transmitting (*see* col. 8, lines 56-66, *Examiner interprets the steps of: (a) drawing "one or more context-indicating words...from the body of text" and transmitting "with the designated word to server 30", (b) the server evaluating "the designated word in the context of the context-indicating words", and (c) and transmitting "data from database 34 responsive to the evaluation" to be sequential steps.*), by the remote host to the web service host, at least one additional portion of the document (see col. 8, lines 56-58, *Examiner interprets "the data" to be a document.*), wherein the first portion and the at least one additional portion collectively comprise the entire document (see col. 8, lines 56-58, *Examiner interprets "the data" to be a document.*), wherein the entire document is adapted to be reconstructed and subsequently processed via processing said entire document by the web service host, said processing comprising at least one of:

extracting text from said entire document to configure said text in a text format, if said entire document received by said web service host comprises said text in a non-text format (*see* col. 8, lines 45-52, *Examiner interprets "an OCR algorithm determines the text" to mean: text is extracted by OCR from the entire document if the document is "a standard broadcast" image.*);

generating document keys associated with said text from analysis of said text in said text format, if said entire document received by said web service host comprises said text in said text format, or if said web service host has previously performed said extracting such that said text in said text format is available to said web service host (*see* col. 8, lines 61-66, *Examiner interprets "the*

designated word in the context of the context-indicating words" to be a key associated with said text.);

and determining, from given categories of a document taxonomy, a set of closest categories to the document based on a comparison between the document keys and category keys of the given categories, if said entire document received by said web service host comprises said document keys, or if said web service host has previously performed said generating such that said document keys are available to said web service host (*see* col. 9, line 16 to col. 10, line 50, *Examiner interprets "concept c_j" to be a category.*).

Regarding claims 19 & 30. *Rosenschein et al.* teach a method and a system for document analysis and retrieval (*see* above), comprising the following steps performed in the order recited:

receiving, by a web service host in a second computing system from a remote host in a first computing system, a first portion of a document (*see* above);

sequentially receiving, by the web service host from the remote host, at least one additional portion of the document, wherein the first portion and the at least one additional portion collectively comprise the entire document (*see* above, *Examiner asserts that sequential transmitting of the first and second portions of the data implies sequential receiving of the first and second portions of the data.*);

reconstructing the entire document from the first portion and the at least one additional portion (*see* col. 2, lines 58-61, *Examiner interprets the second portion of the data to consist of the entire document.*);

and processing the entire document by the web service host, wherein said processing comprises at least one of:

extracting text from said entire document to configure said text in a text format, if said entire document received by said web service host comprises said text in a non-text format (*see* above);

generating document keys associated with said text from analysis of said text in said text format, if said entire document received by said web service host comprises said text in said text format, or if said web service host has previously performed said extracting such that said text in said text format is available to said web service host (*see* above);

and determining, from given categories of a document taxonomy, a set of closest categories to the document, if said entire document received by said web service host comprises said document keys, or if said web service host has previously performed said generating such that said document keys are available to said web service host (*see* above).

Regarding claims 3 & 12. *Rosenschein et al.* teach the method and system, wherein said transmitting and sequentially transmitting comprise respectively transmitting and sequentially transmitting the first portion and the at least one additional portion via Internet transmission to said web service host (*see* col. 8, lines 26-27, *Examiner interprets server 30 to be web service host.*).

Regarding claims 21 & 32. *Rosenschein et al.* teach the method and system, wherein said receiving and sequentially receiving steps comprise receiving the first portion and the at least one additional portion via Internet transmission from said remote host (*see* col. 8, lines 26-27, *Examiner interprets servers 90, 92, and 94 to be remote hosts.*).

Regarding claims 4 & 13 and 22 & 33. *Rosenschein et al.* teach the method and system, wherein said generating comprises: generating tokens of said text such that stop words do not appear in said tokens (*see* col. 9, lines 65-67); and stemming said tokens to generate said document keys from said tokens (*see* col. 10, lines 30-37).

Regarding claims 5 & 14 and 23 & 34. *Rosenschein et al.* teach the method and system, wherein said processing comprises said extracting (*see* above), said generating (*see* above), and said determining (*see* above).

Regarding claims 6 & 15, 7 & 16, 8 & 17, 9 & 18, 24 & 35, 25 & 36, 26 & 37, and 27 & 38. *Rosenschein et al.* teach the method and system, wherein said processing can comprise some

combination of the seven (7) out of eight (8) possible processing combinations, where processing comprises at least one of extracting, generating, and determining (*see* col. 12, lines 34-39).

Regarding claims 28 & 39. *Rosenschein et al.* teach the method and system, wherein said determining comprises:

comparing the category keys of each category (*see* col. 9, lines 16-57, *Examiner interprets "concepts* $c_1, c_2, \ldots, c_M$*" to be categories and keywords* $k_1, k_2, \ldots k_N$ *to be the keys of each category.*) with said document keys (*see* col. 9, lines 58-61, *Examiner interprets* $s_1, s_2, \ldots s_N$ *to be document keys.*) to make a determination of a distance between the document and each category as a measure of how close the document is to each category (*see* col. 10, lines 1-45, *Examiner interprets the score* $S(c_j)$ *to measure how close a concept (i.e., category) is to the current document.*);

and determining said set of closest categories based on said determination (*see* col. 10, lines 47-49, *Examiner interprets the set of sorted scores,* $S(c_j)$*, to be the set of categories ordered by closeness.*).

Regarding claims 29 & 40. *Rosenschein et al.* teach the method and system, wherein said processing comprises said determining, and wherein the method further comprises:

creating a search string, said search string comprising a logical function of a subset of said document keys (*see* col. 9, lines 59-61, *Examiner interprets* $s = s_1, s_2, \ldots, s_f, \ldots s_n$ *to be a search string where the logical function ("s and f") maps* $s_1, s_2, \ldots, s_f, \ldots s_n$ *to* $((s_1, s_2, \ldots, s_f, \ldots s_n), f)$.);

submitting said search string to a search engine (*see* col. 9, lines 59-61);

receiving links to related documents from said search engine, said links being based on said search string (*see* col. 5, lines 24-25, *Examiner interprets "computer data relating to the at least one transmitted word" to comprise links.*);

and returning said links to said remote host (*see* col. 7, lines 55-63, *Examiner asserts that hyperlinks in "database 90" must be links returned to remote host 90.*).

Regarding claims 41 and 43. (New) *Rosenschein et al.* teach the system of claims 1 and 10, respectively, wherein said determining comprises:

comparing the category keys of each category with said document keys to make a determination of a distance between the document and each category as a measure of how close the document is to each category (*see* 14. above, Examiner provides Offical Notice that the dot product of two vectors is a determination of the distance between the two vectors.); and determining said set of closest categories based on said determination (*see* col. 10, lines 47-49, *Examiner interprets the set of sorted scores, $S(c_j)$, to be the set of categories ordered by closeness.*).

Regarding claim 42. (New) *Rosenschein et al.* teach the method of claim 41, wherein said comparing comprises computing said distance for each category as a dot product of a vector of the document keys and a vector of the category keys of each category (*see* col. 10, lines 47-49, *Examiner provides Offical Notice that the dot product of two vectors is a determination of the distance between the two vectors. Examiner interprets the modified positional weights, p_i, to be a vector of document keys and each column of W_{ij} to be a vector of the category keys of each category.*).

Regarding claims 44, 45, and 46. (New) *Rosenschein et al.* teach the system of claim 43, the method of claim 28, and the system of claim 39, wherein said comparing comprises computing said distance for each category as a dot product of a vector of the document keys and a vector of the category keys of each category (*see* col. 10, lines 47-49, *Examiner provides Offical Notice that the dot product of two vectors is a determination of the distance between the two vectors. Examiner interprets the modified positional weights,* p_i, *to be a vector of document keys and each column of* W_{ij} *to be a vector of the category keys of each category.*).

Claims 2, 11, 20, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Rosenschein et al.* in view of *Mahmoud*, "Registration and Discovery of Web Services Using JAXR with XML Registries such as UDDI and ebXML", June 2002.

Regarding claims 2 & 11 and 20 & 31. *Rosenschein et al.* teach a method and a system for document analysis and retrieval, as set forth above. *Rosenschein et al.* do not teach a method for document analysis and retrieval, further comprising identifying said web services host, by: executing a Universal Description, Discovery, and Integration (UDDI) search to identify one or more web services hosts who can receive said document in chunks and who can perform said at least one of said extracting, generating, and stemming; and selecting said web services host from said one or more web services hosts, prior to the sending step. However, *Mahmoud* does teach a executing a Universal Description, Discovery, and Integration (UDDI) search (*see* §The JAXR Programming Model, Example 2: Performing a query) to identify one or more web services hosts

who can receive said document in chunks and who can perform said at least one of said extracting, generating, and stemming; and selecting said web services host from said one or more web services hosts, prior to the sending step (*see* Example 1: Creating an organization and publishing it in the registry, *Examiner asserts that receiving documents in chunks, extracting, generating, and stemming text are services that can be published for a organization by modifying Code Sample 1: PublishORG.java.*). It would have been obvious at the time the invention was made to persons having ordinary skill in the art to combine *Rosenschein et al.* with *Mahmoud* for the purpose of access to a web service host for handling either document analysis or retrieval.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 47-48 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter: algorithm. Claim 47 recites a method of "sequentially transmitting at least one additional portion ... after said transmitting the first portion" of a document. Claim 48 recites this method for a "remote host". These claims clearly recite no more than the 101 judicial exception of algorithm as they specify only an unambiguous procedure. There is clearly no physical transformation associated with the procedures specified, but the procedures have the practical result of moving a document from one computer to another. However, claims 47-48 preempt the use of the procedure of "sequentially transmitting at least one additional portion ...

after said transmitting the first portion" of a document from any one machine to another (since one, in any pair of machines, may be designated as "remote"). These claims, essentially, foreclose, from others, the use of sequential transmission of parts of a document. Claims 47-48 are non-statutory under 35 U.S.C. 101.

Claims 49-50 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter: algorithm. Claim 49 recites "sequentially receiving at least one additional portion of the document is performed after said receiving the first portion of the document" of a document. Claim 50 recites this method for a "web service host". These claims clearly recite no more than the 101 judicial exception of algorithm as they specify only an unambiguous procedure. There is clearly no physical transformation associated with the procedures specified, but the procedures have the practical result of obtaining a document from one computer on another. However, claims 47-48 preempt the use of the procedure of "sequentially receiving at least one additional portion of the document ... after ... receiving the first portion of the document" of a document from any one machine on another (since, in any pair of machines, one may be designated a "web service host"). These claims, essentially, foreclose, from others, the use of sequential reception of parts of a document from the web. Claims 49-50 are clearly non-statutory under 35 U.S.C. 101.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

7. Claims 47-50 are rejected under 35 U.S.C. 102(a) as being anticipated by *Rosenschein et al.*

Regarding claim 47. (New) *Rosenschein et al.* teach the method of claim 1, wherein said sequentially transmitting at least one additional portion of the document is performed after said transmitting the first portion of the document has been performed (*see* col. 3, lines 6-11, *Examiner interprets that part of the "body of text" transmitted to the server for extraction of the "context-indicating words" to be the first portion of the document. Examiner interprets that part of the "body of text" transmitted from the database, responsive to the evaluation of the designated word, to be at least one additional portion of the document.*).

Regarding claim 48. (New) *Rosenschein et al.* teach the method of claim 10, wherein the remote host is adapted to sequentially transmit the at least one additional portion of the document to the web service host after the remote host has transmitted the first portion of the document to the web service host (*see* col. 2, lines 25-29, Examiner interprets "remote source" to be remote host.).

Regarding claim 49. (New) *Rosenschein et al.* teach the method of claim 19, wherein said sequentially receiving at least one additional portion of the document is performed after said receiving the first portion of the document has been performed (*see* col. 3, lines 6-11 and col. 2, lines 43-46, *Examiner asserts that sequentially transmitting that part of the "body of text" to the server for extraction of the "context-indicating words" then transmitting from the database that part of the "body of text", responsive to the evaluation of the designated word, implies sequentially receiving at least one additional portion of the document after receiving the first portion of the document.*).

Regarding claim 50. (New) *Rosenschein et al.* teach the method of claim 30, wherein the web service host is adapted to sequentially receive the at least one additional portion of the document from the remote host after the web service host has received the first portion of the document from the remote host (*see* col. 2, lines 25-29 and col. 2, lines 43-48, *Examiner interprets "server" to be web service host and "remote source" to be remote host.*).

Response to Arguments

8. Applicants' arguments with respect to the Official Notice have been fully considered but they are not persuasive.

35 U.S.C. § 102(a)

9. The Examiner rejected claims 1, 3-10, 12-19, 21-30 and 32-46 under 35 U.S.C. § 102(a) as allegedly being anticipated by Rosenschein *et al.* (USPN 6,519,631 BI).

Table 1 depicts the Examiner's interpretation of how various recited words and phrases claimed by Applicant are represented in Rosenschein.

Claimed By Applicant	Represented in Rosenschein (as alleged by Examiner)
remote host in first computing system	servers 90, 92, 94
web server host in second computing system	server 30
Document	data described in col. 8, lines 56-58 (i.e., data in small window adjacent to designated word on display 64 of apparatus 20)
first portion of document	data described in col. 8, lines 56-58
at least one additional portion of document	data described in col. 8, lines 56-58

Applicants argue:

To understand the Examiner's indicated interpretation of the "data' in Rosenschein, col. 8, lines 56-58 representing the "claimed "document", Applicants note that Rosenschein, col. 8, lines 56-58 recites: "Typically, a definition of the designated word, or other small quantity of **data** is shown in a small window, which opens adjacent to the **designated word** and closes automatically " (emphasis added).

For clarification, Applicants point to FIG. 2 of Rosenschein, wherein the small window

(beginning with "FL,OWER(N):...) points to the designated word of "FLOWERS". See also, Rosenschein, col. 7, lines 31-35 which recites: "In FIG. 2, user 60 has designated the word "flowers" with pointing device 66, by placing an arrow pointer on the word, and, for instance, right-clicking, to indicate to client 52 that additional information is desired about flowers." It should also be noted from Rosenschein, col. 7, lines 20-22 that "FIG. 2 is a sample output of display 64, generated during use of apparatus 20".

In summary, the Examiner has interpreted the claimed "document" as the "data" referred to in Rosenschein, col. 8, lines 56-58. Said "data" is the data appearing in the small window which opens adjacent to the designated word appearing on display 64 of apparatus 20.

Examiner responds:

Examiner asserts that the "data" is what is returned from server 30 in response to clicking on the designated word (*see* col. 7, lines 24-42)). Further, only a small part of the "data" is shown in 64 (*see* col. 8, lines 53-58). So what is shown in 64 is not *the* "data", but a display of a small part of the "data". Examiner asserts that *Rosenschein et al.* disclose types of "data" that may be transferred by server 30 (*see* col. 8, lines 18-26). *Rosenschein et al.* recites that each of these is a "body of text". Examiner interprets a "body of text" to be a document.

Applicants argue:

Applicants respectfully contend that Rosenschein does not anticipate claims 1, 10, 19, and 30, because Rosenschein does not teach each and every feature of claims 1, 10, 19, and 30, as illustrated in the following examples in light of the Examiner's allegations in Table 1.

As a first example of why Rosenschein does not anticipate claims 1, 10, 19, and 30, Rosenschein does not teach the feature: "transmitting, by a remote host in a first computing system to a web service host in a second computing system, a first portion of a document; and sequentially transmitting, by the remote host to the web service host, at least one additional portion of the document, wherein the first portion and the at least one additional portion collectively comprise the entire document".

The Examiner argues: *"Rosenschein et al.* teach ... transmitting, by a remote host in a first computing system to a web service host in a second computing system *(see* Fig. *1, Examiner interprets the steps of (a) drawing "one or more context-indicating words ...from the body of text" and transmitting "with the designated word to server 30 (b) the server evaluating "the designated word in*

the context of the context-indicating words '; and (c) and transmitting "data from database 34 responsive to the evaluation" to be sequential steps.), by the remote host to the web service host, at least one additional portion of the document (see col. 8, lines 56-58, *Examiner interprets "the data" to be a document.),* wherein the first portion and the at least one additional portion collectively comprise the entire document".

In response, Applicants respectfully contend that the Examiner has incorrectly interpreted the preceding feature of claims 1, 10, 19, and 30 in several ways.

A first way that the Examiner has incorrectly interpreted the preceding feature of claims 1, 10, 19, and 30 is that the Examiner incorrectly interprets the claimed "sequentially transmitting" as performing ***any steps*** sequentially. Applicants note that since "sequentially" modifies "transmitting", claims 1, 10, 19, and 30 require that "transmitting" steps are to be performed sequentially. Applicants further note that since "sequentially transmitting" modifies "at least one additional portion of the document", claims 1, 10, 19, and 30 require that if the "at least one additional portion of the document" comprises additional portions P1, P2, P3, ... then the additional portions P1, P2, P3, ... are transmitted in the sequence P1, P2, P3, ... The Examiner's application of "sequentially transmitting" to steps (a) "drawing ...", *(b) "the server evaluating ...",* and *(c) "transmitting data from database 34 ..."* is incorrect, because the (a) "drawing ..." step and the (b) *"the server evaluating ..."* step do not perform "transmitting ... at least one additional portion of the document" as claimed.

Examiner responds:

Examiner regrets the suggestion of steps (a)-(c) as being the sequential transmission.

Examiner meant to refer only to the last step, (c).

Applicants argue:

A second way that the Examiner has incorrectly interpreted the preceding feature of claims 1, 10, 19, and 30 is that the Examiner incorrectly interprets the "first portion of a document" and the "at least one additional portion of the document" to each consist of the "data" representing claimed "document", namely the "data" described in Rosenschein, col. 8, lines 56-58 . In other words, the Examiner does not distinguish between the "first portion of a document" and the"at least one additional portion of the document". Applicants respectfully contend that the language "additional portion" in the phrase "at least one **additional portion** of the document" requires that the "at least one additional portion of the document" be **in addition to** the "first portion of a document. Thus, the "first portion of a document" and the "at least one additional portion of the document" are required to be different portions of the document, which Rosenschein does not teach.

Examiner responds:

Examiner responds that different portions of the document are simply different subsets of the text in the document. Further, "in addition to" does not specify that the subsets be distinct.

Applicants argue:

A third way that the Examiner has incorrectly interpreted the preceding feature of claims 1, 10, 19, and 30 is that the Examiner's argument fails to recognize that the steps of "transmitting ... a first portion of a document and "transmitting ... at least one additional portion of the document" are claimed as distinct steps. However, the Examiner has interpreted the preceding steps as the same step, namely the same step of "transmitting data from database 34 responsive to the evaluation". Thus, based on the Examiner's argument, Rosenschein does not teach the steps of "transmitting ... a first portion of a document and "transmitting ... at least one additional portion of the document" as distinct steps in violation of the language of claims 1, 10, 19, and 30.

Examiner responds:

Examiner responds by asserting the claims only specify "transmit a first portion of a document to the web service host; and sequentially transmit at least one additional portion of the document to the web service". As Applicant specifies that the transmission of the portions of the document are to be sequential and *Rosenschein et al.* make no mention of parallel data transmission to the web service host; Examiner interprets all data transmission under consideration to be sequential. Thus, transmission of a first portion of a document is necessarily sequential, which implies that transmission of any additional portions will be as well.

Applicants argue:

As a second example of why Rosenschein does not anticipate claims 1, 10, 19, and 30, Rosenschein does not teach the feature: "extracting text from said entire document to configure said text in a text format, if said entire document received by said web service host comprises said text in a non-text format".

The Examiner argues: *"Rosenschein et al.* teach ... extracting text from said entire document to configure said text in a text format, if said entire document received by said web service host comprises said text in a non-text format *(see* col. 8, lines 45-52, *Examiner interprets "an OCR algorithm determines the text" to mean: text is extracted by OCR from the entire document if the document is "a standard broadcast" image.);"*

In response, Applicants respectfully contend that the preceding language of claims 1, 10, 19, and 30 require said "text" to be comprised by the claimed document, and the Examiner alleges that the claimed "document" is the data appearing in the small window which opens adjacent to the designated word appearing on display 64 of apparatus 20. However, the text determined by the OCR algorithm is not extracted from the claimed document (i.e., from the data appearing in the small window which opens adjacent to the designated word appearing on display 64 of apparatus 20), but rather is extracted from the information containing the designated word on the display 64 of apparatus 20 (e.g., from the information containing "MOTHER'S DAY IS COMING SOON. DON'T FORGET TO SEND MOM FLOWERS"). See Rosenschein, col. 8, lines 45-48 ("The user points to and clicks on the pitcher's name, and an OCR algorithm determines the text, which is transmitted to server 30 for retrieval therefrom of information related to the pitcher's name"). In other words, Rosenschein does not teach that the OCR algorithm extracts text from the "document" (i.e., from the data appearing in the small window which opens adjacent to the designated word appearing on display 64 of apparatus 20), as required by claims 1, 10, 19, and 30.

Moreover, it is clear from that the preceding quote in Rosenschein, col. 8, lines 45-48 that the text (i.e., "the pitcher's name") determined by the OCR algorithm is the "designated word", particularly in light of Rosenschein, col. 7, lines 30-34 which recites: "In FIG. 2, user 60 has designated the word "flowers" with pointing device 66, by placing an arrow pointer on the word, and, for instance, right-clicking, to indicate to client 52 that additional information is desired about flowers."

Therefore, the Examiner's interpretation of "text" is inconsistent with the language of claims 1, 10, 19, and 30.

Examiner responds:

Examiner responds by reciting the relevant part of the claim:

> extracting text from said entire document to configure said text in a text format, if said entire document received by said web service host comprises said text in a non-text format

Examiner asserts that the prior art here is the extraction (by OCR) of text from a standard broadcast image, which comprises text, in a non-text format (see col. 8, lines 45-48). Examiner adds that claims 1, 10, 19, and 30 place no constraints on the definition or use of the word 'text'.

Applicants argue:

In addition, Applicants maintain that Rosenschein does not teach that said "extracting" is performed conditionally "if said entire document received by said web service host comprises said

text in a non-text format". The Examiner's statement that "Examiner interprets "an OCR algorithm determines the text" to mean: text is extracted by OCR from the entire document if the document is "a standard broadcast" image" is an arbitrary interpretation not supported by anything disclosed in Rosenschein. Applicants maintain that the Examiner cannot successfully assert such an interpretation without supplying evidentiary support accompanied by competent analysis.

Accordingly, Rosenschein does not teach the preceding feature of claims 1, 10, 19, and 30.

Examiner responds:

Examiner cites a larger portion of *Rosenschein et al.* to show the IF condition:

> In a practical example, the user may be watching a standard broadcast of a baseball game, and a pitcher's name and statistics are shown at the bottom of the display. The user points to and clicks on the pitcher's name, and an OCR algorithm determines the text, which is transmitted to server 30 for retrieval therefrom of information related to the pitcher's name. Alternatively, **if** the text is transmitted in a separate data stream from that containing the video portion of the baseball game, then the pitcher's name may be retrieved directly from the separate data stream. (emphasis, Examiner's)

Examiner interprets the quote to mean: IF the text is "in a separate data stream from that containing the video portion of the baseball game, then the pitcher's name may be retrieved directly from the separate data stream", ELSE IF the text is in "a standard broadcast ... and a pitcher's name ... are shown at the bottom of the display ... an OCR algorithm determines the text". Accordingly, *Rosenschein et al.* do teach the preceding feature of claims 1, 10, 19, and 30.

Applicants argue:

As a third example of why Rosenschein does not anticipate claims 1, 10, 19, and 30, Rosenschein does not teach the feature: "generating document keys associated with said text from analysis of said text in said text format, if said entire document received by said web service host comprises said text in said text format, or if said web service host has previously performed said extracting such that said text in said text format is available to said web service host".

The Examiner argues: *"Rosenschein et al.* teach ... generating document keys associated with said text

from analysis of said text in said text format, if said entire document received by said web service host comprises said text in said text format, or if said web service host has previously performed said extracting such that said text in said text format is available to said web service host *(see col. 8,* lines 61-66, *Examiner interprets "the designated word in the context of the context-indicating words " to be a key associated with said text)".*

In response, Applicants respectfully contend, as explained *supra* in conjunction with said second example, that the Examiner's interpretation of "text" is inconsistent with the language of claims 1, 10, 19, and 30.

In addition, the Examiner alleges that the "designated word" is a key associated with said "text". However, the Examiner also alleges that said "text" is what is determined by the OCR algorithm, which must be the "designated word" as explained *supra.* Therefore, the Examiner is effectively alleging that the designated word is a key associated with the designated word, which makes no sense at all.

Accordingly, Rosenschein does not teach the preceding feature of claims 1, 10, 19, and 30.

Examiner responds:

Examiner has responded *supra*, that claims 1, 10, 19, and 30 place no constraints on the definition or use of the word 'text'. Therefore, 'text' may be what the OCR algorithm determines, or what is directly extracted from a text stream, or what is extracted from a text file. Text may be used as a "designated word" or as a key ("(4) (A) (data management) ...a data element or concatenation of data elements that identifies an item within a set of items." *see* The Authroritative Dictionary Of IEEE Standards Terms 7th Ed., p. 600) associated with the designated word. Clearly, a word can be a key to itself (assuming the word is in a set of words, e.g., document). Accordingly, Rosenschein does teach the preceding feature of claims 1, 10, 19, and 30.

Applicants argue:

As a fourth example of why Rosenschein does not anticipate claims 1, 10, 19, and 30, Rosenschein does not teach the feature: "determining, from given categories of a document taxonomy, a set of closest categories to the document based on a comparison between the document keys and category keys of the given categories, if said entire document received by said web service host comprises said document keys, or if said web service host has previously performed said generating such that said document keys are available to said web service host".

The Examiner argues: *"Rosenschein et al.* teach ... determining, from given categories of a document taxonomy, a set of closest categories to the document based on a comparison between the document keys and category keys of the given categories, if said entire document received by said web

service host comprises said document keys, or if said web service host has previously performed said generating such that said document keys are available to said web service host *(see col.* 9, line 16 to col. 10, line 50, *Examiner interprets "concept to be a category.)"*

In response, Applicants respectfully contend that the claimed "categories" are "categories of a document taxonomy". However, Rosenschein does not teach that the concepts c_i are "categories of a document taxonomy" as required by claims 1, 10, 19, and 30. "Taxonomy" is defined as "classification, esp. in relation to its principles or laws" or "that department of science, or of a particular science, which deals with classification". See "The American College Dictionary" 1242 (1955). Thus, in order for the concepts c_j to be categories of a taxonomy, the concepts must relate to each other in accordance with a classification, which Rosenschein does not teach.

Examiner responds:

Examiner interprets taxonomy to be a classification scheme (*see* The Authoritative Dictionary Of IEEE Standards Terms 7th Ed., p. 1153). Examiner interprets a category to mean "a specifically defined division in a system of classification; class" (*see* The Authoritative Dictionary Of IEEE Standards Terms 7th Ed., p. 149). Examiner interprets a concept to be: "A unit of thought constituted through abstraction on the basis of characteristics common to a group of entities." (*see* The Authoritative Dictionary Of IEEE Standards Terms 7th Ed., p. 211) *Rosenschein et al.* recites:

> keywords may comprise words such as "Jordan," "River," "Michael," "Almond," "Kevin," "Basketball," etc., while the concepts may comprise, for example, "Jordan, kingdom of," "Jordan River," "Michael Jordan," "Kevin Jordan," "Bill Clinton," etc.

Clearly, the concepts of *Rosenschein et al.* are simply abstractions on the basis of word groupings, but they also *represent* distinct places and people, which are two categories in a classification of 'things in the real world', which *Rosenschein et al.* do not explicitly teach, but which is well known by many practitioners of knowledge engineering. Therefore, the concepts of *Rosenschein et al.* do relate to each other in accordance with a classification, or taxonomy, of at least two things in the real world.

Applicants argue:

In addition, Applicants maintain that Rosenschcin does not teach the specifics of said "determining". In particular, Rosenschein does not teach determining a set of closest categories to the document "based on a comparison between the document keys and category keys of the given categories". The Examiner considers $s_1, s_2, ..., s_n$ (discussed in Rosenschein, col. 9, line 58 - col. 10, line 50) to be the document keys. The Examiner's allegation that the concepts c_j (j=1, 2, ..., N) are the categories implies that the keywords $k_1, k_2, ..., k_n$ are the category keys. However, Rosenschein does not teach that the document keys $s_1, s_2, ..., s_n$ are compared with category keys $k_1, k_2, ..., k_n$ to determine a set of closest categories. Rather, the category weight matrix elements W_{ij} are utilized, in combination with the modified positional weights $p_1, p_2, ..., p_N$, to compute the score $S(c_l)$ in the equation depicted in Rosenschein, col. 10, lines 42-44.

Accordingly, Rosenschein does not teach the preceding feature of claims 1, 10, 19, and 30.

Examiner responds:

Examiner respectfully points out that Rosenschein does teach that the document keys s1, s2, ..., sn are compared with category keys k1, k2, ..., kn to determine a set of closest categories (*see* col. 10, lines 1-7). These comparisons generate the values of the modified positional weights $p_1, p_2, ..., p_N$, which are then utilized, in combination with the category weight matrix elements Wij to compute the score $S(c_l)$. Accordingly, Rosenschein does teach the preceding feature of claims 1, 10, 19, and 30.

Applicants argue:

Based on the preceding arguments, Applicants respectfully maintain that Rosenschein does not anticipate claims 1, 10, 19, and 30, and that claims 1, 10, 19, and 30 are in condition for allowance. Since claims 3-9, 41 and 42 depend from claim 1, Applicant contends that claims 3-9, 41 and 42 are likewise in condition for allowance. Since claims 12-18, 43 and 44 depend from claim 10, Applicant contends that claims 12-18, 43 and 44 are likewise in condition for allowance. Since claims 21-29 and 45 depend from claim 19, Applicant contends that claims 21-29 and 45 are likewise in condition for allowance. Since claims 32-40 and 46 depend from claim 30, Applicant contends that claims 32-40 and 46 are likewise in condition for allowance.

Examiner responds:

Based on the preceding Examiner's responses, Examiner respectfully maintains that Rosenschein does

anticipate claims 1, 10, 19, and 30, and that claims 1, 10, 19, and 30 are in not condition for allowance. Since claims 3-9, 41 and 42 depend from claim 1, Examiner asserts that claims 3-9, 41 and 42 are likewise not in condition for allowance. Since claims 12-18, 43 and 44 depend from claim 10, Examiner asserts that claims 12-18, 43 and 44 are likewise not in condition for allowance. Since claims 21-29 and 45 depend from claim 19, Examiner asserts that claims 21-29 and 45 are likewise not in condition for allowance. Since claims 32-40 and 46 depend from claim 30, Examiner asserts that claims 32-40 and 46 are likewise not in condition for allowance.

Applicants argue:

In addition with respect to claims 5, 14, 23, and 34, Applicants respectfully contend that Rosenschein does not teach the feature: "wherein said processing comprises said extracting, said generating, and said determining", based on the arguments presented *supra* in conjunction with claims 1, 10, 19, and 30, wherein said arguments presented *supra* explain that Rosenschein: does not teach said extracting, does not teach said generating, and does not teach said determining.

Examiner responds:

Examiner respectfully asserts that Rosenschein does teach the feature: "wherein said processing comprises said extracting" (*see* col. 8, lines 45-52, Examiner interprets "an OCR algorithm determines the text" to mean." text is extracted by OCR from the entire document if the document is "a standard broadcast" image.) – from rejection of claim 1; "said generating" (said generating comprises: (a) generating tokens of said text such that stop Words do not appear in said tokens (*see* col. 9, lines 65-67) and (b) stemming said tokens to generate said document keys from said tokens (*see* col. 10, lines 30-37)) – from the rejection of claim 4 which depends from 1; and "said determining", (determining, from given categories of a document taxonomy, a set of closest categories to the document based on a comparison between the document keys and category keys of the given categories, if said entire document received by said web service host comprises said document keys, or if said web service host

has previously performed said generating such that said document keys are available to said web service host (*see* col. 9, line 16 to col. 10, line 50, Examiner interprets "concept c_j" to be a category.)) – from the rejection of claim 1; based on the arguments presented *supra* in conjunction with the rejection of claims 1, 10, 19, and 30.

Applicants argue:

In addition with respect to claims 6, 15, 24, and 35, Applicants respectfully contend that Rosenschein does not teach the feature: "wherein said processing consists of two of said extracting, said generating, and said determining".

The Examiner argues: *"Rosenschein et al.* teach the method and system, wherein said processing can comprise some combination of the seven (7) out of eight (8) possible processing combinations, where processing comprises at least one of extracting, generating, and determining *(see col.* 12, lines 34-39).".

In response, Applicants respectfully contend that the preceding argument by the Examiner is not persuasive, because the Examiner has not cited specifically where Rosenschein teaches "wherein said processing consists of two of said extracting, said generating, and said determining".

Examiner responds:

Examiner responds by pointing out that claims reciting combinations of claimed features just rejected in various ways, "employ only a portion of the features described hereinabove, or a combination of features described with reference to a plurality of the figures" found in *Rosenschein et al.*

Applicants argue:

In addition with respect to claims 7, 16, 25, and 36, Applicants respectfully contend that Rosenschein does not teach the feature: "wherein said processing comprises said extracting but not said generating and not said determining".

The Examiner argues: *"Rosenschein et al.* teach the method and system, wherein said processing can comprise some combination of the seven (7) out of eight (8) possible processing combinations,

where processing comprises at least one of extracting, generating, and determining *(see col.* 12, lines 34-39).".

In response, Applicants respectfully contend that the preceding argument by the Examiner is not persuasive, because the Examiner has not cited specifically where Rosenschein teaches "wherein said processing comprises said extracting but not said generating and not said determining".

Examiner responds:

(*see* above)

Applicants argue:

In addition with respect to claims 8, 17, 26, and 37, Applicants respectfully contend that Rosenschein does not teach the feature: "wherein said processing comprises said generating but not said extracting and not said determining".

The Examiner argues: *"Rosenschein et at.* teach the method and system, wherein said processing can comprise some combination of the seven (7) out of eight (8) possible processing combinations, where processing comprises at least one of extracting, generating, and determining *(see col. 12,* lines 34-39).".

In response, Applicants respectfully contend that the preceding argument by the Examiner is not persuasive, because the Examiner has not cited specifically where Rosenschein teaches "wherein said processing comprises said generating but not said extracting and not said determining".

Examiner responds:

(*see* above)

Applicants argue:

In addition with respect to claims 9, 18, 27, and 38, Applicants respectfully contend that Rosenschein does not teach the feature: "wherein said processing comprises said determining but not said extracting and not said generating".

The Examiner argues: *"Rosenschein et at.* teach the method and system, wherein said processing can comprise some combination of the seven (7) out of eight (8) possible processing combinations, where processing comprises at least one of extracting, generating, and determining *(see col.* 12, lines 34-39).".

In response, Applicants respectfully contend that the preceding argument by the Examiner is not persuasive, because the Examiner has not cited specifically where Rosenschein teaches "wherein said processing comprises said determining but not said extracting and not said generating".

Examiner responds:

(*see* above)

Applicants argue:

In addition with respect to claims 28 and 39, Applicants respectfully contend that Rosenschein does not teach the feature: "comparing the category keys of each category with said document keys to make a determination of a distance between the document and each category as a measure of how close the document is to each category; and determining said set of closest categories based on said determination".

The Examiner argues: "Regarding claims 28 & 39. *Rosenschein et al.* teach the method and system, wherein said determining comprises: comparing the category keys of each category *(see col.* 9, lines *16-57, Examiner interprets "concepts* $c_1, c_2, \ldots, c_m$*" to be categories and keywords* $k_1, k_2, \ldots k_N$ *to be the keys of each category.)* with said document keys *(see col. 9,* lines *58-61, Examiner interprets* $s_1, s_2, \ldots s_N$ *to be document keys.)* to make a determination of a distance between the document and each category as a measure of how close the document is to each category *(see col. 10,* lines *1-45, Examiner interprets the score S(c) to measure how close a concept (i.e., category) is to the current document.);* and determining said set of closest categories based on said determination *(see col. 10,* lines 47-49, Examiner interprets the set of sorted scores, $S(c_3)$, to be the set of categories ordered by closeness.)".

In response, Applicants respectfully contend that the preceding argument by the Examiner is not persuasive, because Rosenschein does not teach that the document keys $s_1, s_2, \ldots, s_n$ are compared with category keys $k_1, k_2, \ldots, k_n$ to make a determination of a distance between the document and each category as a measure of how close the document is to each category.

Rather, the category weight matrix elements w_{ij} are utilized, in combination with the modified positional weights $p_1, p_2, \ldots, p_N$, to compute the score $S(c_j)$.

Examiner responds:

Examiner respectfully points out that Rosenschein does teach that the document keys s1, s2, ..., sn are compared with category keys k1, k2, ..., kn to determine a set of closest categories (*see* col. 10, lines 1-7). These comparisons generate the values of the modified positional weights $p_1, p_2, \ldots, p_N$, which are then utilized, in combination with the category weight matrix elements Wij to compute the score $S(c_1)$. Accordingly, Rosenschein does teach the preceding feature of claims 28 and 39.

Applicants argue:

In addition with respect to claims 29 and 40, Applicants respectfully contend that Rosenschein does not teach the feature: "creating a search string, said search string comprising a logical function of a subset of said document keys; submitting said search string to a search engine; receiving links to related documents from said search engine, said links being based on said search string".

The Examiner argues: "Regarding claims *29 & 40. Rosenschein et al.* teach the method and system, wherein said processing comprises said determining, and wherein the method further comprises: creating a search string, said search string comprising a logical function of a subset of said document keys *(see col. 9,* lines *59-61, Examiner interprets* $s = s_{i,}, s_2, \ldots s_f \ldots s_{,,}$ *to be a search string where the logical function ("s and f") maps* $s_{,,}$ *s2,...,sj...*$s_{,,}$ *to* $((s_{l}, s2,\ldots,sf..s_{,,}),f.)$*;* submitting said search string to a search engine *(see col. 9,* lines 59-61); receiving links to related documents from said search engine, said links being based on said search string *(see col.* 5, lines 24-25, *Examiner interprets "computer data relating to the at least one transmitted word" to comprise links)"*

In response, Applicants respectfully contend that the preceding argument by the Examiner is not persuasive based on the following argument. The Examiner argues that Rosenschein, col. 9, lines 59-61 teaches a search engine to which the alleged search keys s_1, s_2, ... Sf ...s_n are submitted. By so citing Rosenschein, col. 9, lines 59-61, the Examiner is alleging that the context-determination algorithm (disclosed in Rosenschein, col. 9, lines 59-61) is a search engine.

In response, Applicants maintain that that the Examiner has not supplied evidence with supporting argumentation to demonstrate that the context-determination algorithm is a search engine.

Examiner responds:

Rosenschein et al. teach that the context-determination algorithm retrieves informations (see col. 9, lines 3-7. The retrieval of information requires search based on criteria such as 'what is being searched for' (e.g., text, number, blob). Therefore the context-determination algorithm can be interpreted as a type of search engine.

Applicants argue:

However, even if the context-determination algorithm is a search engine, then Rosenschein does not teach "receiving links to related documents from said search engine, because the Examiner's citation to Rosenschein, col. 5, lines 24-25 does not teach that the alleged links (namely, "computer data relating to the at least one transmitted word") are received from the search engine (i.e., from the context-determination algorithm). Furthermore, the Examiner's citation to Rosenschein, col. 5, lines 24-25 does not teach "said link being based on said search string" (i.e., the computer data relating to the at least one

transmitted word being based on $s_1, s_2, ... s_t...s_n$).

Examiner responds:

Rosenschein et al. does teach that the context-determination algorithm retrieves hyperlinks to related documents (see Fig. 2, item 64). Examiner interprets that the information in the window opened by clicking one "FLOWER" in the email is retrieved from the database. That information contains hyperlinks to documents related to flowers in various ways as shown. Examiner interprets the content of *Rosenschein et al.* col. 8, line 53 to col. 9, line 10 to indicate that the information retrieval is a result of the execution of the context-determination algorithm.

Applicants argue:

In addition with respect to claims 28, 39, 41, and 43, Applicants respectfully contend that Rosenschein does not teach the feature: "comparing the category keys of each category with said document keys to make a determination of a distance between the document and each category as a measure of how close the document is to each category".

The Examiner's argument depends on the following allegation by the Examiner: *"Examiner provides Official Notice that the dot product of two vectors is a determination of the distance between the two vectors."*

In response, Applicants respectfully contend that the preceding allegation of Official Notice by the Examiner is incorrect as may be seen in the following examples.

> In two-dimensional Euclidean space, the distance between two vectors which are parallel to each other is independent of their dot product. Generally, in two-dimensional Euclidean space, the dot product A•B of vectors A and 13 is equal to Al **1131** cos(A, B). Thus in two-dimensional Euclidean space, A•B may be interpreted as a measure of the projection of A onto B, or of the projection of B onto A, and has no relationship to a "distance" between A and B.

In three-dimensional Euclidean space, the distance between two vectors which do not intersect is a constant, and the dot product between the two vectors varies with the angle between the two vectors which do not intersect.

For two vectors which intersect each other in two-dimenmsional or in three-dimensional Euclidean space, the concept of a "distance" between the two vectors is meaningless and thus undefined.

Examiner responds:

Examiner responds by noting that the distance between two arbitrary vectors, **A** and **B** in $\mathbf{R}^N$ is $||\mathbf{A}-\mathbf{B}||$. However, the scalar product, $\mathbf{A}\bullet\mathbf{B}$, between **A** and **B** defines an angle, θ, between **A** and **B**, such that $\theta = \arccos(\mathbf{A}\bullet\mathbf{B}/||\mathbf{A}||\,||\mathbf{B}||)$. This angle is associated with an angular displacement between the two vectors, $d = r\theta$ for some $r \in \mathbf{R}$. Then, the angular displacement from **A** to **B** is, $d = r\theta = r\arccos(\mathbf{A}\bullet\mathbf{B}/||\mathbf{A}||\,||\mathbf{B}||)$, which is clearly a function of the scalar product of **A** and **B**.

Now, angular displacement provides a very simple relationship between the distance traveled around a circle and the distance, r, from the centre of the circle. If we perform a rigid translation of A and B to the origin of $\mathbf{R}^N$, the tails of both vectors are fixed at $\mathbf{O} \in \mathbf{R}^N$, with their heads angularly displaced from each other by θ. Now, the difference between the distance traveled around the circle centered at **O** for a point on **A**, at a distance r from the origin, and the distance traveled around the circle for a point on **B**, at a distance r from the origin, is the distance between **A** and **B** at a distance r from the origin, $r\theta$. Clearly, this distance is a function of the scalar product of **A** and **B**.

Further, it can be show that the vectors **A**, **B**, and **A-B** form a triangle. Let θ be the angle between **A** and **B**, φ be the angle between **A** and **A-B**, and ϕ be the angle between **A-B** and **B**. Then $\theta + \varphi + \phi = 180°$. Now drop a projection from the shorter of the two vectors to the longer. Note that the original triangle is now divided into two right triangles, e.g.: **A**, $\mathbf{A}\text{-proj}_{\mathbf{B}}(\mathbf{A})$,

$\text{proj}_{\mathbf{B}}(\mathbf{A})$; and $\mathbf{A}$- $\text{proj}_{\mathbf{B}}(\mathbf{A})$, $\mathbf{B}$- $\text{proj}_{\mathbf{B}}(\mathbf{A})$, and $\mathbf{A}$-$\mathbf{B}$. Since ϕ is the angle between $\mathbf{A}$-$\mathbf{B}$ and $\mathbf{B}$, ϕ is the angle between $\mathbf{A}$-$\mathbf{B}$ and $\mathbf{B}$- $\text{proj}_{\mathbf{B}}(\mathbf{A})$. Clearly $||\text{A-B}|| = ||\mathbf{B}\text{- proj}_{\mathbf{B}}(\mathbf{A})||/\cos\phi = ||\mathbf{B}\text{- proj}_{\mathbf{B}}(\mathbf{A})||/\cos(180° - \theta + \varphi) = ||\mathbf{B}\text{- proj}_{\mathbf{B}}(\mathbf{A})||/\cos(180° - \arccos(\mathbf{A}\cdot\mathbf{B}/||\mathbf{A}||\,||\mathbf{B}||) + \varphi)$, which again, is a function of the scalar product of $\mathbf{A}$ and $\mathbf{B}$.

Thus, the distance between two vectors, as a function of the scalar product, is well defined and has meaning. It does not matter if the vectors have arbitrary tails and heads, since they can be rigidly translated to the origin of $\mathbf{R}^N$ without disturbing the angular relationship between them.

Applicants argue:

Since, the Examiner's argument depends on an erroneous allegation of Official Notice, Applicants respectfully maintain that Rosenschein does not teach the preceding feature of claims 28, 39, 41, and 43.

Furthermore, Applicants are not claiming that a dot product of two vectors is a determination of the distance between the two vectors. Therefore, the Examiner's allegation of Official Notice, even if not erroneous, would not be persuasive as to the rejection of claims 28, 39, 41, and 43.

Examiner responds:

Since, the Examiner's argument depends on a correct allegation of Official Notice, Examiner respectfully maintains that Rosenschein does teach the preceding feature of claims 28, 39, 41, and 43. Therefore, the Examiner's allegation of Official Notice is persuasive as to the rejection of claims 28, 39, 41, and 43.

Applicants argue:

In addition with respect to claims 42, 44, 45, and 46, Applicants respectfully contend that

Rosenschein does not teach the features: "comparing the category keys of each category with said document keys to make a determination of a distance between the document and each category as a measure of how close the document is to each category; and determining said set of closest categories based on said determination ..., wherein said comparing comprises computing said distance for each category as a dot product of a vector of the document keys and a vector of the category keys of each category."

The Examiner's argument depends on the following allegation by the Examiner: "Examiner interprets the modified positional weights, p_i to be a vector of document keys and each column, of W_{ij} to be a vector of the category keys of each category".

In response, Applicants respectfully contend that the preceding argument by the Examiner is not persuasive, because;

(1) Claims 42, 44, 45, and 46 respectively depend from claims 1, 10, 28, and 39 and therefore comprise all limitations in claims 1, 10, 28, and 39. Since the Examiner's analysis of claims 1, 10, 28, and 39 has asserted that the document keys are $s_1, s_2, \ldots, s_n$ and the category keys are $k_1, k_2, \ldots, k_n$, the Examiner's assertion that p_i is a vector of document keys and that each column of W_{ij} is a vector of the category keys has introduced a logical inconsistency with respect to antecedent basis (referring back to claims 1, 10, 28, and 39) and therefore demonstrates that the Examiner's argument is logically flawed.

Examiner responds:

Examiner notes that the *alleged* logical inconsistency is a product of a misunderstanding of the difference between 'interpretation' and 'allegation'. Examiner provides definitions of both from Merriam-Webster's Online Dictionary (http://www.m-w.com/):

Main Entry: al·le·ga·tion
Pronunciation: "a-li-'gA-sh&n
Function: noun
1 : the act of alleging
2 : a positive assertion; specifically : a statement by a party to a legal action of what the party undertakes to prove
3 : an assertion unsupported and by implication regarded as unsupportable <vague allegations of misconduct>

Main Entry: in·ter·pret
Pronunciation: in-'t&r-pr&t, -p&t
Function: verb
Etymology: Middle English, from Anglo-French & Latin; Anglo-French interpreter, from Latin interpretari, from interpret-, interpres agent, negotiator, interpreter
transitive verb
1 : to explain or tell the meaning of : present in understandable terms <interpret dreams> <needed help interpreting the results>
2 : to conceive in the light of individual belief, judgment, or circumstance : CONSTRUE <interpret a contract>

> 3 : to represent by means of art : bring to realization by performance or direction <interprets a role>
> intransitive verb : to act as an interpreter between speakers of different languages
>
> Main Entry: 1con·strue
> Pronunciation: k&n-'strü
> Function: verb
> Inflected Form(s): con·strued; con·stru·ing
> Etymology: Middle English, from Late Latin construere, from Latin, to construct
> transitive verb
> 1 : to analyze the arrangement and connection of words in (a sentence or sentence part)
> 2 : to understand or explain the sense or intention of usually in a particular way or with respect to a given set of circumstances <construed my actions as hostile>
> intransitive verb : to construe a sentence or sentence part especially in connection with translating

It is clear from the above definitions that an interpretation is not an allegation, as an interpretation makes no attempt to *prove* a positive assertion (unsupportable or not). It is to be noted that interpretation is a way to 'explain' or 'present in understandable terms' something conceived 'in the light of individual belief, judgment, or circumstance' or construed. Now belief and judgment are widely recognized to be to different categories of discourse from logical argument, having separate treatments in the study of logic (*see* Genesereth, Michael and Nilsson, Nils J., Logical Foundations of Artificial Intelligence, 1987). To confuse the two, as in:

> The Examiner's argument depends on the following allegation by the Examiner: "Examiner interprets..."

is to lose sight of an essential part of the nature of *examination (see* construe, above). It is only when the Examiner 'asserts' (something potentially unsupportable) that the examiner alleges, and potentially introduces a logical flaw. In this case, Examiner only interprets and thus, does not demonstrate a logically flawed argument.

As for the *interpretation* of 'keys', in the rejection of claims 1 and 10, examiner provided the reference:

> generating document keys associated with said text from analysis of said text in said text format, if said entire document received by said web service host comprises said text in said text format, or if said web service host has previously performed said extracting such that said text in said text format is available to said web service host (*see* col. 8, lines 61-66, *Examiner interprets "the designated word in the context of the context-indicating words" to be a key associated with said text.*)

In the rejection of claims 28 and 39, Examiner provided the reference:

> comparing the category keys of each category (see col. 9, lines 16-57, Examiner interprets "concepts c_1, c_2, ... c_M" to be categories and keywords k_1, k_2, ..., k_N to be the keys of each category.) with said document keys (see col. 9, lines 58-61, Examiner interprets s_1, s_2, ... s_N to be document keys.) to make a determination of a distance between the document and each category as a measure of how close the document is to each category (see col. 1 O, lines 1-45, Examiner interprets the score S(cj) to measure how close a concept (i. e., category) is to the current document.)

In the rejection of claims 42, 44, 45, and 46, Examiner provided the reference:

> Regarding claims 44, 45, and 46. (New) Rosenschein et al. teach the system of claim 43, the method of claim 28, and the system of claim 39, wherein said comparing comprises computing said distance for each category as a dot product of a vector of the document keys and a vector of the category keys of each category (see col. 10, lines 47-49, Examiner provides Offical Notice that the dot product of two vectors is a determination of the distance between the two vectors. Examiner interprets the modified positional weights, p_i, to be a vector of document keys and each column of W_{ij} to be a vector of the category keys of each category.).

Now, the interpretation of the modified positional weights, p_i, as a vector of document keys is derived from the way each p_i is derived (*see* col. 10, lines 1-7) from rules equating category keywords in the *database*, k_i, with keywords in the *document*, s_f. It is this *equation* that forms the basis of the Examiner's interpretation of the p_i as a vector of document keys. Now *Rosenschein et al.* define W_{ij} to represent the strength of the relation between the keyword k_i and the concept c_j (*see* col. 9, lines 16-22). For lack of a better (compact) term, Examiner

interprets each column of W_{ij} as a vector of the category keys. Since W_{ij}, k_i, s_f, and p_i are all distinct, under interpretation, in terms of their computational roles; no logical inconsistency, with respect to antecedent basis of claims 1, 10, 28, and 39, is introduced.

Applicants argue:

(2) Rosenschein does not teach that p_i is a vector of document keys and that each column of W_{ij} is a vector of the category keys. The Examiner's assertion that p_i is a vector of document keys and that each column of W_{ij} is a vector of the category keys is arbitrary and is not supported by anything disclosed in Rosenschein. Applicants maintain that the Examiner cannot successfully assert such an interpretation without supplying evidentiary support accompanied by competent analysis.

Examiner responds:

The response provided above shows that the Examiner's assertions are not arbitrary and that they are supported (rightly or wrongly in interpretation) by the disclosures cited above. Examiner maintains that sufficient evidentiary support has been provided for the *interpretations* under consideration.

35 U.S.C. § 103(a)

10. The Examiner rejected claims 2, 11, 20 and 31 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Rosenschein *et al.* in view of Mahmoud, "Registration and Discovery of Web Services Using JAXR with XML Registries such as UDDI and ebXML", June 2002.

Applicants argue:

Since claims 2, 11, 20 and 31 respectively depend from claims 1, 10, 19, and 30, which Applicants have argued *supra* to not be unpatentable over Rosenschein under 35 U.S.C. §102(b), Applicants maintain that claims 2, 11, 20 and 31 are likewise not unpatentable over Rosenschein in view of Mahmoud under 35 U.S.C. §103(a).

Examiner responds:

Claims 2, 11, 20 and 31 respectively depend from claims 1, 10, 19, and 30, which

Examiner has shown *supra* to not be patentable over Rosenschein under 35 U.S.C. §102(b), Examiner maintains that claims 2, 11, 20 and 31 are likewise not patentable over Rosenschein in view of Mahmoud under 35 U.S.C. §103(a).

Applicants argue:

In addition, Rosenschein in view of Mahmoud does not teach or suggest the feature: "executing a Universal Description, Discovery, and Integration (UDDI) search **to identify one or more web services hosts who can receive said document in chunks and who can perform said at least one of said extracting, generating, and stemming".**

The Examiner argues: "Examiner asserts that receiving documents in chunks, extracting, generating, and stemming text are services that can be published for a organization **by modifying** Code Sample 1: PublishORG.java" (emphasis added).

Thus, the Examiner admits that Mahmoud does not teach or suggest the preceding feature claims 2, 11, 20 and 31, since the Examiner asserts that the preceding feature claims 2, 11, 20 and 31 can be realized only through a **modification** of Code Sample 1: PublishORG.java in Mahmoud. Therefore, the Examiner's argument is not persuasive due to lack of disclosure and/or lack of enablement. In particular, neither Rosenschein nor Mahmoud teaches or suggests the preceding feature claims 2, 11, 20 and 31, and/or the Examiner has not cited any prior art to demonstrate how the alleged modification of Code Sample 1: PublishORG.java in Mahmoud would be enabled.

Examiner responds:

Examiner asserts that it would be obvious to anyone familiar with the publication means provided by the various web services products, that in any way one chooses to publish their business services, one will have to enter their particular business's information, e.g.: basic contact information, a service and its service bindings, and business classification into some sort of container for publication processing. Mahmoud teaches that Code Sample 1: PublishORG.java is one way to do this using the IBM UDDI V2 Business Registry. He also points out that the same thing can be done using a web-based interface. Now, any modification to Code Sample 1: PublishORG.java in Mahmoud would be enabled by compiling and executing it.

Examiner's argument is persuasive, as Code Sample 1: PublishORG.java is an enabler of service publication through the IBM UDDI V2 Business Registry. Thus, Rosenschein in view of Mahmoud teaches the preceding feature claims 2, 11, 20 and 31. The rejection of claims 2, 11, 20 and 31 is maintained.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan H. Brown, Jr. whose telephone number is 571-272- 8632. The examiner can normally be reached on M-F 0830-1700. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 571-

272-3687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anthony Knight
Supervisory Patent Examiner
Tech Center 2100

Nathan H. Brown, Jr.
December 10, 2006